

What is claimed is:

1. A microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and having ability to produce C-13 glycosidated nemadectin.

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2. The microorganism strain according to claim 1 wherein the microorganism strain having ability to produce C-13 glycosidated nemadectin is *Streptomyces cyaneogriseus* subsp. *noncyanogenus* Δ nemA4::vph attB_{TG1}::aveA4-aveA3-aveE attB ϕ _{c31}::aveR
10 attB_{R4}::aveBI-BVIII (FERM BP-8394).

3. A microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and having ability to produce C-13 hydroxynemadectin.

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4. The microorganism strain according to claim 3 wherein the strain having ability to produce C-13 hydroxynemadectin is *Streptomyces cyaneogriseus* subspecies *noncyanogenus* Δ nemA4::vph attB_{TG1}::aveA4-aveA3-aveE attB ϕ _{c31}::aveR (FERM
20 BP-8395).

5. A process for manufacturing C-13 hydroxynemadectin comprising culturing a microorganism belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and having ability to
25 produce C-13 hydroxynemadectin in a medium, producing and accumulating C-13 hydroxynemadectin in a culture medium, and collecting C-13 hydroxynemadectin from the cultured mass.

6. A process for manufacturing C-13 glycosidated nemadectin

comprising culturing a microorganism belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and having ability to produce C-13 glycosidated nemadectin in a medium, producing and accumulating C-13 glycosidated nemadectin in a culture medium,
5 and collecting C-13 glycosidated nemadectin from the cultured mass.

7. A microorganism belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus*, maintaining gene groups of avermectin
10 aglycon biosynthesis of *Streptomyces avermitilis* and having ability to produce C-13 hydroxylnemadectin.

8. A manufacturing method of the microorganism described in claim 7 belonging to *Streptomyces cyaneogriseus* subspecies
15 *noncyanogenus*, maintaining gene groups of avermectin aglycon biosynthesis of *Streptomyces avermitilis* and having ability to produce C-13 hydroxylnemadectin.

9. A microorganism belonging to *Streptomyces cyaneogriseus*
20 subspecies *noncyanogenus*, maintaining gene groups of avermectin aglycon biosynthesis of *Streptomyces avermitilis* and having ability to produce C-13 glycosidated nemadectin

10. A method for preparation of the microorganism described
25 in claim 9 belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus*, maintaining gene groups of avermectin aglycon biosynthesis of *Streptomyces avermitilis* and having ability to produce C-13 glycosidated nemadectin.

11. A nemadectin non-producing microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and inserting viomycin resistant gene in the region coding nemadectin aglycon biosynthesis genes nemA3-4 operon KS10 (KS10
5 insertion mutant).

12. The microorganism strain according to claim 11 wherein the nemadectin non-producing microorganism strain is *Streptomyces cyaneogriseus* subspecies *noncyanogenus* Δ nemA4::vph (FERM
10 BP-8393).

13. A microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus*, maintaining avermectin aglycon biosynthesis genes aveA3-4 of *Streptomyces avermitilis*
15 in the KS10 insertion mutant, and having ability to form a hybrid PKS with NemA1-2 and AVES3-4.

14. A microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and having ability to
20 form a hybrid PKS with NemA1-2 and AVES3-4, wherein the microorganism strain maintains a regulator gene aveR of avermectin biosynthesis genes of *Streptomyces avermitilis*.

15. A microorganism strain belonging to *Streptomyces cyaneogriseus* subspecies *noncyanogenus* and having ability to
25 form a hybrid PKS with NemA1-2 and AVES3-4, wherein the microorganism strain maintains a regulator gene aveR of avermectin biosynthesis genes and an avermectin glycosidation and an oleandrose biosynthesis genes aveBI-BVIII of *Streptomyces*

avermittilis.